
Perform loop diagnostic tests

The following equipment is required for the loop diagnostic tests in Procedure 3:

- one volt-ohmmeter (VOM) for each test
- one 77 cable analyzer or equivalent for each test

Procedure 3

Testing foreign voltage

- 1 Set the VOM range switch to a scale 60 V dc/V ac or greater.
- 2 Connect the VOM test probes to the loop at the line card or distributing frame.
- 3 Measure the DC and AC voltage between the following points under no-load conditions:
 - tip (T) and ring (R)
 - T and ground (GND)
 - R and GND

Requirement: Voltage readings should be less than 1 V dc/V ac.

Testing insulation resistance

- 1 Set the VOM range switch to ohm x 10,000 and adjust the meter to zero.
- 2 Connect the VOM test probes to the loop at the line card or distribution frame.

- 3** Measure the resistance between the following points under no-load conditions:
- T and R
 - T and GND
 - R and GND

Requirement: Resistance readings must be greater than 10 M ohm.

Testing DC continuity

- 1** Short circuit the T and R at the far end.
- 2** Using the VOM, measure the resistance between the T and R.

Requirement: Resistance measurement should be approximately equal to the calculated loop resistance as described in Procedure 2.

Testing capacitance unbalance

- Using the cable analyzer, measure the capacitance between the following points:
 - T and GND
 - R and GND

Requirement: The difference between the two readings must be <0.002 μ F.